



SEQUENCE LISTING

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<110> Danks, Mary K.
Potter, Philip M.
Houghton, Peter J.

<120> Compositions and Methods for Sensitizing and Inhibiting
Growth of Human Tumor Cells

<130> SJ-0011

<140> 09/622,568

<141> 2000-08-31

<150> 60/075,258

<151> 1998-02-19

<150> PCT/US99/03171

<151> 1999-02-12

<160> 30

<170> PatentIn Ver. 2.0

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<211> 34

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<213> Oryctolagus cuniculus

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<222> (7)

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<223> Description of Artificial Sequence: Synthetic

<400> 1

His Pro Ser Ala Pro Val Xaa Val Asp Thr Val His Gly Lys Val Leu

1

5

10

15

Gly Lys Phe Val Ser Xaa Glu Gly Phe Ala Gln Pro Val Ala Lys Phe
 20 25 30

Xaa Gly

<210> 2

<211> 36

<212> PRT

<213> *Oryctolagus cuniculus*

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 2

His Pro Ser Ala Pro Pro Val Val Asp Thr Val Lys Gly Lys Val Leu
 1 5 10 15

Gly Lys Phe Val Ser Leu Glu Gly Phe Ala Gln Pro Val Ala Val Phe
 20 25 30

Leu Gly Val Pro
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<210> 3

<211> 54

<212> PRT

<213> *Homo sapiens*

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 3

Met Trp Leu Arg Ala Phe Ile Leu Ala Thr Leu Ser Ala Ser Ala Ala
 1 5 10 15

Trp Gly His Pro Ser Ser Pro Pro Val Val Asp Thr Val His Gly Lys
 20 25 30

Val Leu Gly Lys Phe Val Ser Leu Glu Gly Phe Ala Gln Pro Val Ala
 35 40 45

Ile Phe Leu Gly Ile Pro
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<210> 4
<211> 54
<212> PRT
<213> Rattus rattus

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 4
Met Trp Leu Cys Ala Leu Val Trp Ala Ser Leu Ala Val Cys Pro Ile
1 5 10 15
Trp Gly His Pro Ser Ser Pro Pro Val Val Asp Thr Thr Lys Gly Lys
20 25 30
Val Leu Gly Lys Tyr Val Ser Leu Glu Gly Phe Thr Gln Pro Val Ala
35 40 45
Val Phe Leu Gly Val Pro
50

<210> 5
<211> 54
<212> PRT
<213> Mus musculus

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 5
Met Trp Leu His Ala Leu Val Trp Ala Ser Leu Ala Val Cys Pro Ile
1 5 10 15
Leu Gly His Ser Leu Leu Pro Pro Val Val Asp Thr Thr Gln Gly Lys
20 25 30
Val Leu Gly Lys Tyr Ile Ser Leu Glu Gly Phe Glu Gln Pro Val Ala
35 40 45
Val Phe Leu Gly Val Pro
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<210> 6
<211> 5
<212> PRT
<213> Oryctolagus cuniculus

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 6
His Pro Ser Ala Pro
1 5

<210> 7
<211> 14
<212> DNA
<213> Oryctolagus cuniculus

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 7
cacccaagcg cacc 14

<210> 8
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<220>
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<222> (6)
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<220>
<221> modified_base
<222> (12)
<223> i

<400> 8
cacccnagcg cncc 14

<210> 9
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<220>

<221> modified_base

<222> (6)

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<221> modified_base

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<223> i

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<221> modified_base

<222> (12)

<223> i

<400> 9

caccntcng cncc

14

<210> 10

<211> 7

<212> PRT

<213> Oryctolagus cuniculus

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 10

Ala Phe Trp Thr Glu Leu Trp

1

5

<210> 11

<211> 21

<212> DNA

<213> Oryctolagus cuniculus

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 11

gcattctgga cagaactatg g

21

<210> 12

<211> 21

<212> DNA

<213> Oryctolagus cuniculus

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 12
ccaaagttca gtccagaaag c

21

<210> 13
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

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<400> 13
ccanagttcn gtccagaang c

21

<210> 14
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
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<223> i

<400> 14

ccataattcn gtccagaang c

21

<210> 15

<211> 30

<212> PRT

<213> Rattus rattus

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 15

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Leu | Cys | Ala | Leu | Ala | Leu | Ala | Ser | Leu | Ala | Ala | Cys | Thr | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Gly | His | Pro | Ser | Ala | Pro | Pro | Val | Val | Asp | Thr | Val | Lys |
| | | | 20 | | | | | 25 | | | | | 30 |

<210> 16

<211> 30

<212> PRT

<213> Rattus sp.

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 16

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Leu | Cys | Ala | Leu | Val | Trp | Ala | Ser | Leu | Ala | Val | Cys | Pro | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Gly | His | Pro | Ser | Ser | Pro | Pro | Val | Val | Asp | Thr | Thr | Lys |
| | | | 20 | | | | | 25 | | | | | 30 |

<210> 17

<211> 30

<212> PRT

<213> Homo sapiens

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 17

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Leu | Arg | Ala | Phe | Ile | Leu | Ala | Thr | Leu | Ser | Ala | Ser | Ala | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Trp Gly His Pro Ser Ser Pro Pro Val Val Asp Thr Val His
 20 25 30

<210> 18
 <211> 30
 <212> PRT
 <213> Rattus rattus

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 18
 Met Arg Leu Tyr Pro Leu Val Trp Leu Phe Leu Ala Ala Cys Thr Ala
 1 5 10 15

Trp Gly Tyr Pro Ser Ser Pro Pro Val Val Asn Thr Val Lys
 20 25 30

<210> 19
 <211> 30
 <212> PRT
 <213> Mus musculus

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 19
 Met Trp Leu His Ala Leu Val Trp Ala Ser Leu Ala Val Cys Pro Ile
 1 5 10 15

Leu Gly His Ser Leu Leu Pro Pro Val Val Asp Thr Thr Gln
 20 25 30

<210> 20
 <211> 1717
 <212> DNA
 <213> Oryctolagus cuniculus

<220>
 <223> Description of Artificial Sequence: Synthetic

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<210> 21

<211> 565

<212> PRT

<213> *Oryctolagus cuniculus*

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 21

Met Trp Leu Cys Ala Leu Ala Leu Ala Ser Leu Ala Ala Cys Thr Ala

1

5

10

15

Trp Gly His Pro Ser Ala Pro Pro Val Val Asp Thr Val His Gly Lys

20

25

30

Val Leu Gly Lys Phe Val Ser Leu Glu Gly Phe Ala Gln Pro Val Ala

35

40

45

Val Phe Leu Gly Val Pro Phe Ala Lys Pro Pro Leu Gly Ser Leu Arg

50

55

60

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ala | Pro | Pro | Gln | Pro | Ala | Glu | Ser | Trp | Ser | His | Val | Lys | Asn | Thr | 65 | 70 | 75 | 80 |
| Thr | Ser | Tyr | Pro | Pro | Met | Cys | Ser | Gln | Asp | Ala | Val | Ser | Gly | His | Met | 85 | 90 | 95 | |
| Leu | Ser | Glu | Leu | Phe | Thr | Asn | Arg | Lys | Glu | Asn | Ile | Pro | Leu | Lys | Phe | 100 | 105 | 110 | |
| Ser | Glu | Asp | Cys | Leu | Tyr | Leu | Asn | Ile | Tyr | Thr | Pro | Ala | Asp | Leu | Thr | 115 | 120 | 125 | |
| Lys | Arg | Gly | Arg | Leu | Pro | Val | Met | Val | Trp | Ile | His | Gly | Gly | Gly | Leu | 130 | 135 | 140 | |
| Met | Val | Gly | Gly | Ala | Ser | Thr | Tyr | Asp | Gly | Leu | Ala | Leu | Ser | Ala | His | 145 | 150 | 155 | 160 |
| Glu | Asn | Val | Val | Val | Val | Thr | Ile | Gln | Tyr | Arg | Leu | Gly | Ile | Trp | Gly | 165 | 170 | 175 | |
| Phe | Phe | Ser | Thr | Gly | Asp | Glu | His | Ser | Arg | Gly | Asn | Trp | Gly | His | Leu | 180 | 185 | 190 | |
| Asp | Gln | Val | Ala | Ala | Leu | Arg | Trp | Val | Gln | Asp | Asn | Ile | Ala | Asn | Phe | 195 | 200 | 205 | |
| Gly | Gly | Asp | Pro | Gly | Ser | Val | Thr | Ile | Phe | Gly | Glu | Ser | Ala | Gly | Gly | 210 | 215 | 220 | |
| Gln | Ser | Val | Ser | Ile | Leu | Leu | Leu | Ser | Pro | Leu | Thr | Lys | Asn | Leu | Phe | 225 | 230 | 235 | 240 |
| His | Arg | Ala | Ile | Ser | Glu | Ser | Gly | Val | Ala | Leu | Leu | Ser | Ser | Leu | Phe | 245 | 250 | 255 | |
| Arg | Lys | Asn | Thr | Lys | Ser | Leu | Ala | Glu | Lys | Ile | Ala | Ile | Glu | Ala | Gly | 260 | 265 | 270 | |
| Cys | Lys | Thr | Thr | Thr | Ser | Ala | Val | Met | Val | His | Cys | Leu | Arg | Gln | Lys | 275 | 280 | 285 | |
| Thr | Glu | Glu | Glu | Leu | Met | Glu | Val | Thr | Leu | Lys | Met | Lys | Phe | Met | Ala | 290 | 295 | 300 | |
| Leu | Asp | Leu | Val | Gly | Asp | Pro | Lys | Glu | Asn | Thr | Ala | Phe | Leu | Thr | Thr | 305 | 310 | 315 | 320 |

Val Ile Asp Gly Val Leu Leu Pro Lys Ala Pro Ala Glu Ile Leu Ala
 325 330 335

Glu Lys Lys Tyr Asn Met Leu Pro Tyr Met Val Gly Ile Asn Gln Gln
 340 345 350

Glu Phe Gly Trp Ile Ile Pro Met Gln Met Leu Gly Tyr Pro Leu Ser
 355 360 365

Glu Gly Lys Leu Asp Gln Lys Thr Ala Thr Glu Leu Leu Trp Lys Ser
 370 375 380

Tyr Pro Ile Val Asn Val Ser Lys Glu Leu Thr Pro Val Ala Thr Glu
 385 390 395 400

Lys Tyr Leu Gly Gly Thr Asp Asp Pro Val Lys Lys Lys Asp Leu Phe
 405 410 415

Leu Asp Met Leu Ala Asp Leu Leu Phe Gly Val Pro Ser Val Asn Val
 420 425 430

Ala Arg His His Arg Asp Ala Gly Ala Pro Thr Tyr Met Tyr Glu Tyr
 435 440 445

Arg Tyr Arg Pro Ser Phe Ser Ser Asp Met Arg Pro Lys Thr Val Ile
 450 455 460

Gly Asp His Gly Asp Glu Ile Phe Ser Val Leu Gly Ala Pro Phe Leu
 465 470 475 480

Lys Glu Gly Ala Thr Glu Glu Glu Ile Lys Leu Ser Lys Met Val Met
 485 490 495

Lys Tyr Trp Ala Asn Phe Ala Arg Asn Gly Asn Pro Asn Gly Glu Gly
 500 505 510

Leu Pro Gln Trp Pro Ala Tyr Asp Tyr Lys Glu Gly Tyr Leu Gln Ile
 515 520 525

Gly Ala Thr Thr Gln Ala Ala Gln Lys Leu Lys Asp Lys Glu Val Ala
 530 535 540

Phe Trp Thr Glu Leu Trp Ala Lys Glu Ala Ala Arg Pro Arg Glu Thr
 545 550 555 560

Glu His Ile Glu Leu
 565

<210> 22
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 22
cacgtg

6

<210> 23
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 23
ggcaggaatt ctgccatgtg gctctg

26

<210> 24
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 24
cggaattca cattcacagc tcaatgt

27

<210> 25
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 25
cacctg

6

<210> 26
<211> 543

<212> PRT

<213> Oryctolagus cuniculus

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 26

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Trp | Gly | His | Pro | Ser | Ala | Pro | Pro | Val | Val | Asp | Thr | Val | His | Gly | Lys | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Val | Leu | Gly | Lys | Phe | Val | Ser | Leu | Glu | Gly | Phe | Ala | Gln | Pro | Val | Ala | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Val | Phe | Leu | Gly | Val | Pro | Phe | Ala | Lys | Pro | Pro | Leu | Gly | Ser | Leu | Arg | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Phe | Ala | Pro | Pro | Gln | Pro | Ala | Glu | Ser | Trp | Ser | His | Val | Lys | Asn | Thr | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Thr | Ser | Tyr | Pro | Pro | Met | Cys | Ser | Gln | Asp | Ala | Val | Ser | Gly | His | Met | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Leu | Ser | Glu | Leu | Phe | Thr | Asn | Arg | Lys | Glu | Asn | Ile | Pro | Leu | Lys | Phe | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Ser | Glu | Asp | Cys | Leu | Tyr | Leu | Asn | Ile | Tyr | Thr | Pro | Ala | Asp | Leu | Thr | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Lys | Arg | Gly | Arg | Leu | Pro | Val | Met | Val | Trp | Ile | His | Gly | Gly | Gly | Leu | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Met | Val | Gly | Gly | Ala | Ser | Thr | Tyr | Asp | Gly | Leu | Ala | Leu | Ser | Ala | His | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Glu | Asn | Val | Val | Val | Val | Thr | Ile | Gln | Tyr | Arg | Leu | Gly | Ile | Trp | Gly | |
| | | | 165 | | | | | 170 | | | | | 175 | | | |
| Phe | Phe | Ser | Thr | Gly | Asp | Glu | His | Ser | Arg | Gly | Asn | Trp | Gly | His | Leu | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Asp | Gln | Val | Ala | Ala | Leu | Arg | Trp | Val | Gln | Asp | Asn | Ile | Ala | Asn | Phe | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Gly | Gly | Asp | Pro | Gly | Ser | Val | Thr | Ile | Phe | Gly | Glu | Ser | Ala | Gly | Gly | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |

Gln Ser Val Ser Ile Leu Leu Leu Ser Pro Leu Thr Lys Asn Leu Phe
 225 230 235 240
 His Arg Ala Ile Ser Glu Ser Gly Val Ala Leu Leu Ser Ser Leu Phe
 245 250 255
 Arg Lys Asn Thr Lys Ser Leu Ala Glu Lys Ile Ala Ile Glu Ala Gly
 260 265 270
 Cys Lys Thr Thr Thr Ser Ala Val Met Val His Cys Leu Arg Gln Lys
 275 280 285
 Thr Glu Glu Glu Leu Met Glu Val Thr Leu Lys Met Lys Phe Met Ala
 290 295 300
 Leu Asp Leu Val Gly Asp Pro Lys Glu Asn Thr Ala Phe Leu Thr Thr
 305 310 315 320
 Val Ile Asp Gly Val Leu Leu Pro Lys Ala Pro Ala Glu Ile Leu Ala
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 Glu Lys Lys Tyr Asn Met Leu Pro Tyr Met Val Gly Ile Asn Gln Gln
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 Glu Phe Gly Trp Ile Ile Pro Met Gln Met Leu Gly Tyr Pro Leu Ser
 355 360 365
 Glu Gly Lys Leu Asp Gln Lys Thr Ala Thr Glu Leu Leu Trp Lys Ser
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 385 390 395 400
 Lys Tyr Leu Gly Gly Thr Asp Asp Pro Val Lys Lys Lys Asp Leu Phe
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 Leu Asp Met Leu Ala Asp Leu Leu Phe Gly Val Pro Ser Val Asn Val
 420 425 430
 Ala Arg His His Arg Asp Ala Gly Ala Pro Thr Tyr Met Tyr Glu Tyr
 435 440 445
 Arg Tyr Arg Pro Ser Phe Ser Ser Asp Met Arg Pro Lys Thr Val Ile
 450 455 460
 Gly Asp His Gly Asp Glu Ile Phe Ser Val Leu Gly Ala Pro Phe Leu
 465 470 475 480

Lys Glu Gly Ala Thr Glu Glu Glu Ile Lys Leu Ser Lys Met Val Met
485 490 495

Lys Tyr Trp Ala Asn Phe Ala Arg Asn Gly Asn Pro Asn Gly Glu Gly
500 505 510

Leu Pro Gln Trp Pro Ala Tyr Asp Tyr Lys Glu Gly Tyr Leu Gln Ile
515 520 525

Gly Ala Thr Thr Gln Ala Ala Gln Lys Leu Lys Asp Lys Glu Val
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<210> 27

<211> 2191

<212> DNA

<213> Homo sapiens

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 27

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agggtcagcc tgctgtgccc acacacaccc actaaggaga aagaagttga ttccttcatt 1860
catttcgcca ttcattcata ctccgtcca gaagttgatt ccttcattca cttcgccatt 1920
cattcatact tccgtccatc cattcagaaa ccggyattta ttaagaattt actcaggcat 1980
gatggcccat acttgtaatc ccagctattg ggaaggatga gatgggagga tggcttgagg 2040
ccagaggttt gagaccgacc agccagggca acacagttag accccttctc aaaaaaaaaa 2100
aaaaaaaaag agagagtgtg tgattagaag ctaaatagga aagttttgag cttcaagtca 2160
gtgaggagta aaaaagattt ttaaaaagca a 2191

```

<210> 28

<211> 559

<212> PRT

<213> Homo sapiens

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 28

```

Met Arg Leu His Arg Leu Arg Ala Arg Leu Ser Ala Val Ala Cys Gly
  1             5             10             15

```

```

Leu Leu Leu Leu Leu Val Arg Gly Gln Gly Gln Asp Ser Ala Ser Pro
      20             25             30

```

```

Ile Arg Thr Thr His Thr Gly Gln Val Leu Gly Ser Leu Val His Val
      35             40             45

```

```

Lys Gly Ala Asn Ala Gly Val Gln Thr Phe Leu Gly Ile Pro Phe Ala
      50             55             60

```

```

Lys Pro Pro Leu Gly Pro Leu Arg Phe Ala Pro Pro Glu Pro Pro Glu
      65             70             75             80

```

```

Ser Trp Ser Gly Val Arg Asp Gly Thr Thr His Pro Ala Met Cys Leu
      85             90             95

```

```

Gln Asp Leu Thr Ala Val Glu Ser Glu Phe Leu Ser Gln Phe Asn Met
      100            105            110

```

```

Thr Phe Pro Ser Asp Ser Met Ser Glu Asp Cys Leu Tyr Leu Ser Ile
      115            120            125

```

```

Tyr Thr Pro Ala His Ser His Glu Gly Ser Asn Leu Pro Val Met Val
      130            135            140

```


| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | His | Gly | Gly | Ala | Leu | Val | Phe | Gly | Met | Ala | Ser | Leu | Tyr | Asp | |
| 145 | | | | | 150 | | | | | 155 | | | | | | 160 |
| Gly | Ser | Met | Leu | Ala | Ala | Leu | Glu | Asn | Val | Val | Val | Val | Ile | Ile | Gln | |
| | | | | 165 | | | | | 170 | | | | | | 175 | |
| Tyr | Arg | Leu | Gly | Val | Leu | Gly | Phe | Phe | Ser | Thr | Gly | Asp | Lys | His | Ala | |
| | | | 180 | | | | | 185 | | | | | | 190 | | |
| Thr | Gly | Asn | Trp | Gly | Tyr | Leu | Asp | Gln | Val | Ala | Ala | Leu | Arg | Trp | Val | |
| | | 195 | | | | | 200 | | | | | | 205 | | | |
| Gln | Gln | Asn | Ile | Ala | His | Phe | Gly | Gly | Asn | Pro | Asp | Arg | Val | Thr | Ile | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Phe | Gly | Glu | Ser | Ala | Gly | Gly | Thr | Ser | Val | Ser | Ser | Leu | Val | Val | Ser | |
| 225 | | | | | 230 | | | | | 235 | | | | | | 240 |
| Pro | Ile | Ser | Gln | Gly | Leu | Phe | His | Gly | Ala | Ile | Met | Glu | Ser | Gly | Val | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Ala | Leu | Leu | Pro | Gly | Leu | Ile | Ala | Ser | Ser | Ala | Asp | Val | Ile | Ser | Thr | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Val | Val | Ala | Asn | Leu | Ser | Ala | Cys | Asp | Gln | Val | Asp | Ser | Glu | Ala | Leu | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Val | Gly | Cys | Leu | Arg | Gly | Lys | Ser | Lys | Glu | Glu | Ile | Leu | Ala | Ile | Asn | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Pro | Phe | Lys | Met | Ile | Pro | Gly | Val | Val | Asp | Gly | Val | Phe | Leu | Pro | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Arg | His | Pro | Gln | Glu | Leu | Leu | Ala | Ser | Ala | Asp | Phe | Gln | Pro | Val | Pro | |
| | | | 325 | | | | | | 330 | | | | | 335 | | |
| Ser | Ile | Val | Gly | Val | Asn | Asn | Asn | Glu | Phe | Gly | Trp | Leu | Ile | Pro | Lys | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Val | Met | Arg | Ile | Tyr | Asp | Thr | Gln | Lys | Glu | Met | Asp | Arg | Glu | Ala | Ser | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Gln | Ala | Ala | Leu | Gln | Lys | Met | Leu | Thr | Leu | Leu | Met | Leu | Pro | Pro | Thr | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Phe | Gly | Asp | Leu | Leu | Arg | Glu | Glu | Tyr | Ile | Gly | Asp | Asn | Gly | Asp | Pro | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 30

cgagtctaga gagccgacca tgcggctgca c

31